

WHAT IS CLAIMED IS:

1. A communication system for determining the transmit power of a communication device operating on a twisted pair subscriber line, comprising:

5 a communication server coupled to a first subscriber line and a second subscriber line, the communication server comprising a communication device operable to communicate a signal using the first subscriber line;

10 a memory coupled to the communication server and storing noise information for the first subscriber line; and

a processor coupled to the memory and operable to determine the transmit power of the communication device based upon the noise information.

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2. The communication system of Claim 1, wherein the processor determines the transmit power of the communication device based further upon cross-channel-coupling information for the first subscriber line.

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3. The communication system of Claim 1, further comprising a second communication device operating on the first subscriber line, wherein the second communication device resides at a subscriber premises coupled to the first subscriber line and the processor is further operable to determine the transmit power of the second communication device based upon the noise information.

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4. The communication system of Claim 1, wherein the first subscriber line and the second subscriber line each comprise a common binder group segment.

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5. The communication system of Claim 1, wherein:
the first subscriber line supports communication
using a particular frequency spectrum; and
the communication device is operable to communicate
5 the signal at a sub-frequency of the frequency spectrum
and to receive noise information for the signal measured
for the sub-frequency of the frequency spectrum.

6. The communication system of Claim 5, wherein
10 the processor is further operable to determine the noise
information of the first subscriber line for the
frequency spectrum based upon the noise information of
the signal measured for the sub-frequency of the
frequency spectrum.

15 7. The communication system of Claim 1, wherein
the communication device supports communicating data
using a plurality of communication protocols and the
processor is further operable to select a particular
20 communication protocol based upon the determined transmit
power of the communication device.

8. The communication system of Claim 7, wherein
the selected communication protocol comprises one of
25 Asymmetric Digital Subscriber Line or Symmetric Digital
Subscriber Line.

9. The communication system of Claim 1, wherein
the processor is further operable to determine the data
30 rate capacity of the first subscriber line using the
determined transmit power of the communication device.

10. A method for determining the transmit power of a communication device operating on a twisted pair subscriber line, comprising:

storing noise information for a subscriber line;

5 storing cross-channel-coupling information for the subscriber line; and

determining the transmit power of a communication device operating on the subscriber line based upon the noise information and the cross-channel-coupling
10 information.

11. The method of Claim 10, wherein the step of determining comprises determining the transmit power of the communication device proportional to the noise
15 information and inversely proportional to the cross-channel-coupling information.

12. The method of Claim 10, wherein the communication device is associated with a communication
20 server coupled to the subscriber line.

13. The method of Claim 10, wherein the communication device is associated with a subscriber premises coupled to the subscriber line.

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14. The method of Claim 10, wherein the subscriber line comprises a first subscriber line, and the cross-channel-coupling information is further associated with a second subscriber line.

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15. The method of Claim 10, wherein:

the subscriber line supports communication using a particular frequency spectrum; and

the step of determining the transmit power of the
5 communication device comprises determining the transmit power of the communication device at a sub-frequency of the frequency spectrum.

16. The method of Claim 10, wherein the subscriber
10 line supports communication using a particular frequency spectrum, the method further comprising:

communicating a signal at a sub-frequency of the frequency spectrum;

measuring noise information of the signal for the
15 sub-frequency of the frequency spectrum; and

determining the noise information for the frequency spectrum based upon the noise information of the signal measured for the sub-frequency of the frequency spectrum.

20 17. The method of Claim 10, wherein the communication device supports communicating data using a plurality of communication protocols and further comprising selecting a particular communication protocol based upon the determined transmit power of the
25 communication device.

18. The method of Claim 17, wherein the selected communication protocol comprises one of Asymmetric Digital Subscriber Line or Symmetric Digital Subscriber
30 Line.

19. The method of Claim 10, further comprising determining the data rate capacity of the subscriber line using the determined transmit power of the communication device.

20. A communication facility for determining the transmit power of a communication device operating on a twisted pair subscriber line, comprising:

5 a memory storing noise information and cross-channel-coupling information for a first subscriber line; and

a processor coupled to the memory and operable to determine the transmit power of a communication device operating on the first subscriber line based upon the
10 noise information and the cross-channel-coupling information.

21. The communication facility of Claim 20, wherein the processor determines the transmit power of the
15 communication device proportional to the noise information and inversely proportional to the cross-channel-coupling information.

22. The communication facility of Claim 20, further
20 comprising a second communication device operating on the first subscriber line, wherein the second communication device is associated with a subscriber premises coupled to the first subscriber line and the processor is further operable to determine the transmit power of the second
25 communication device based upon the noise information and the cross-channel-coupling information.

23. The communication facility of Claim 20, wherein the first subscriber line and a second subscriber line
30 each comprise a common binder group segment, and the cross-channel-coupling information is further associated with the second subscriber.

24. The communication facility of Claim 20,
wherein:

the first subscriber line supports communication
5 using a particular frequency spectrum; and

the communication device is operable to communicate
a signal at a sub-frequency of the frequency spectrum and
to receive noise information for the signal measured for
the sub-frequency of the frequency spectrum.
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25. The communication facility of Claim 24, wherein
the processor is further operable to determine the noise
information of the first subscriber line for the
frequency spectrum based upon the noise information of
15 the signal measured for the sub-frequency of the
frequency spectrum.

26. The communication facility of Claim 20, wherein
the communication device supports communicating data
20 using a plurality of communication protocols and the
processor is further operable to select a particular
communication protocol based upon the determined transmit
power of the communication device.

25 27. The communication facility of Claim 26, wherein
the selected communication protocol comprises one of
Asymmetric Digital Subscriber Line or Symmetric Digital
Subscriber Line.

28. The communication facility of Claim 20, wherein the processor is further operable to determine the data rate capacity of the first subscriber line using the determined transmit power of the communication device.

29. A method for determining the transmit power of a communication device operating on a twisted pair subscriber line, comprising:

storing noise information for a first subscriber
5 line; and

determining the transmit power of a communication device operating on the first subscriber line based upon the noise information.

10 30. The method of Claim 29, further comprising storing cross-channel-coupling information associated with the first subscriber line and a second subscriber line, wherein determining the transmit power comprises determining the transmit power based further upon the
15 cross-channel-coupling information.

31. The method of Claim 30, wherein the step of determining comprises determining the transmit power of the communication device proportional to the noise
20 information and inversely proportional to the cross-channel-coupling information.

32. The method of Claim 29, wherein the communication device is associated with a communication
25 server coupled to the first subscriber line.

33. The method of Claim 29, wherein the communication device is associated with a subscriber premises coupled to the first subscriber line.

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34. The method of Claim 30, wherein the first subscriber line and the second subscriber line each comprise a common binder group segment.

5 35. The method of Claim 29, wherein:

the first subscriber line supports communication using a particular frequency spectrum; and

the step of determining the transmit power of the communication device comprises determining the transmit
10 power of the communication device at a sub-frequency of the frequency spectrum.

36. The method of Claim 29, wherein the first subscriber line supports communication using a particular
15 frequency spectrum, the method further comprising:

communicating a signal at a sub-frequency of the frequency spectrum;

measuring noise information of the signal for the sub-frequency of the frequency spectrum; and

20 determining the noise information of the first subscriber line for the frequency spectrum based upon the noise information of the signal measured for the sub-frequency of the frequency spectrum.

25 37. The method of Claim 29, wherein the communication device supports communicating data using a plurality of communication protocols and further comprising selecting a particular communication protocol based upon the determined transmit power of the
30 communication device.

38. The method of Claim 37, wherein the selected communication protocol comprises one of Asymmetric Digital Subscriber Line or Symmetric Digital Subscriber Line.

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39. The method of Claim 29, further comprising determining the data rate capacity of the first subscriber line using the determined transmit power of the communication device.

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40. A communication facility for determining the transmit power of a communication device operating on a twisted pair subscriber line, comprising:

means for storing noise information and cross-
5 channel-coupling information for a first subscriber line;
and

means for determining the transmit power of a
communication device operating on the first subscriber
line based upon the noise information and the cross-
10 channel-coupling information.

41. A communication facility for determining the transmit power of a communication device operating on a twisted pair subscriber line, comprising:

means for storing noise information for a first
5 subscriber line; and

means for determining the transmit power of a communication device operating on the first subscriber line based upon the noise information.

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